LATE HOLOCENE VEGETATION HISTORY FROM HAWAIIAN PEAT DEPOSITS

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In his pioneering work on Hawaiian Palynology, Selling (B. P. Bishop Mus. Spec. Pub. No. 39; 1948) constructed a number of pollen diagrams from peat cores extracted at mountain bogs on Maui, Moloka'i and Kaua'i. The results showed dramatic fluctuations (with depth) in the relative proportions of "xerophytic" and "hygrophytic" indicator pollen. This research, however, was conducted in the era before radiometric dating techniques were developed, and thus the absolute chronology of major pollen shifts described by Selling could only be inferred. The present study reports work on the radiometric dating (^{14}C) of Hawaiian peat deposits. Pollen diagrams have also been prepared for two peat cores collected at bogs on the island of Hawai'i:

1) Waiakanonula - a cinder cone bog in the Kohala Mountains (elevation 1,155 m). Pollen from a 1.6 m core (bottom age approximately 1600 R.C. years) revealed a trend in decreasing arboreal pollen (Metrosideros and Cheirodendron) upward through the profile with relative pollen proportions shifting toward herbaceous species. This gradual transition may be related to Polynesian vegetation modification coupled with more recent post-European vegetation change. Charcoal is present throughout the core.

2) Wailuku Bog - surrounded by prehistoric Mauna Loa lava, this bog is located near the Saddle Road above Hilo (elevation 1,103 m). Pollen from a 3.0 m core (bottom age approximately 2400 R.C. years) revealed little change in relative proportions of major species, with Metrosideros pollen dominant throughout.